United Nations E/CN.17/2004/10/Add.2

Economic and Social Council

Distr.: General
8 March 2004

Original: English

Commission on Sustainable Development
Twelfth session
14-30 April 2004
Item 3 of the provisional agenda*
Thematic cluster for the implementation cycle 2004-2005

Discussion papers submitted by major groups

Note by the Secretariat

Addendum**

* E/CN.17/2004/1.

** The submission of the document is delayed to allow full consultations among relevant stakeholders.

04-26336 (E) 300304

Contribution by business and industry on freshwater, sanitation and human settlements*

Contents

		Paragraphs	Page
I.	Introduction	1–5	3
II.	Recommendations to policy makers	6–12	3
III.	United Nations Millennium Development Goals	13	5
IV.	World Summit on Sustainable Development	14–15	5
V.	Developing strategies for sustainable water resources management	16–21	5
VI.	Sustainable consumption strategies	22–24	7
VII.	Equitable access and affordable supply of water for the poor	25–29	7
VIII.	Support for community development	30	8
IX.	Institutional framework	31–32	9
X.	Cost-effective technologies	33–35	9
XI.	Appropriate tariffs	36–37	10
XII.	Public-private partnerships	38–39	10
XIII.	Investment for water services, infrastructure and management	40–43	11
XIV.	Conclusions	44–59	11

* Prepared by the International Chamber of Commerce (www.iccwbo.org) and the World Business Council for Sustainable Development (www.wbcsd.org); the views and opinions expressed do not necessarily represent those of the United Nations.

I. Introduction

1. Water is central and vital to all life. However, still over a billion people are living without access to safe water supplies and sanitation is minimal for over one third of the planet's population. Awareness is growing that water is a renewable but scarce and precious resource, which must be carefully managed if future water crises are to be avoided.

2. In many communities, particularly among the rural poor, families spend a very high proportion of time and/or income obtaining water to meet basic needs. Growing competition for water, in quantity and quality, threatens advances in poverty eradication, public health and food production.

3. According to the Food and Agriculture Organization of the United Nations (FAO), agriculture is by far the biggest water user, accounting for some 70 per cent of all water withdrawals. In comparison, industry accounts for 20 per cent, while domestic use is limited to 10 per cent.

4. "Business-as-usual" will not meet the needs of those currently un-served, let alone ensuring water for a burgeoning population that could grow by as many as two billion more people in the next 25 years. It will be difficult to achieve water security unless the commitment is made, the resources are provided, and all stakeholders, including those who are currently powerless, are involved in decision-making over allocation, use and benefit. Meeting the minimum targets of global water security by 2025 is estimated to require a doubling of the present investment in water to some US$ 180 billion per year — an impressive but not unrealistic requirement.

5. The water challenge calls for collaboration across all sectors of national economies as well as across political boundaries. National water action agendas need to be created with the active participation of stakeholders. In many countries, the challenge is so enormous that Governments cannot, and should not, seek solutions in isolation, but should work in partnership with local communities, relevant non-governmental organizations and the business sector. Employers and entrepreneurs are key actors in economic development, with a significant influence on employment creation, growth and sustainability, and the ability to help remove the water and sanitation barriers to development.

II. Recommendations to policy makers

Create an enabling environment

6. Essential ingredients in a national water policy include: a basic water law; adequate commercial legal systems; and a regulatory framework that is flexible and encourages devolution to the lowest levels of government possible. This will require capacity-building so that the appropriate government agencies (primarily local authorities) have the competence to negotiate contracts and establish appropriate guidelines from a position of equality with entrepreneurs of all types. Government agencies and trained regulators are needed to ensure that operators' performance complies with the requirements, irrespective of whether these operators are from the public, private or informal sectors.

Remove barriers

7. The following barriers are examples that inhibit delivery of water services to the poor:

- Inadequate land tenure for many of the urban poor
- Political interference by placing inappropriate individuals in water delivery organizations
- Failure to recognize new technologies (water treatment, pipe materials, etc.)
- Poorly managed, trained and paid employees.

8. Business supports employee education and training to improve productivity and provide the management skills required. High-risk financial environments with uncertain legal systems make investment unlikely, from both public and private sources. Wherever safe piped water supplies are unavailable, point-of-use water treatment and safe storage should be implemented immediately. This will extend the life-saving benefit of safe water to vulnerable populations until permanent water treatment and distribution systems can be established.

Build partnerships

9. Public versus private is not the issue. The challenge is to maximize efficiency, whatever structure is chosen. New innovative partnerships could include: large multinational corporations and/or large public sector water operators working with smaller local partners; partnerships with local water sellers; fountain or well operators; and vendors of all sorts.

Recognize that water has immense value for everyone

10. Costs, both capital and operation and maintenance, must be covered by any sustainable water service delivery mechanism. Most of the public, including the poor have demonstrated a "willingness to pay" for fresh drinking water. Valuation and pricing should be negotiable between providers and users of water. Individuals must be convinced that the prices they are paying are reasonable and affordable.

11. In this regard, government regulators must have the capacity and ability to protect the public interest as well as to ensure that investors and service providers are fairly compensated for the services they provide. The process by which prices are set must be open and transparent. Water valuation is also a mechanism for encouraging conservation and curtailing wasteful use of this precious resource.

Catchment management and planning

12. Water resources development and management should be planned for a hydrological unit such as a drainage basin as a whole or for a sub-basin. Catchment planning should take into account surface and groundwater for sustainable use incorporating quality and quantity aspects as well as environmental considerations. All projects and proposals should be formulated and considered within the framework of an overall catchment management plan, keeping in view the existing agreements/awards for a basin or a sub-basin so that best possible combination of options can be selected and sustained.

III. United Nations Millennium Development Goals

13. The Millennium Declaration aims at halving, by the year 2015, the proportion of people without sustainable access to safe drinking water. It also called for stopping "the unsustainable exploitation of water resources by developing water management strategies ... which promote both equitable access and adequate supplies".

IV. World Summit on Sustainable Development

14. The 2002 Johannesburg Plan of Implementation reiterated the above commitment and went further still, adding a similar goal for access to basic sanitation services.

15. The key business messages on water from the World Summit included:

- Business supports the sanitation goal and has played a role in promoting it
- Water issues are at the very core of poverty. Industry has been advocating sanitation goals and supports the new goal to halve the number of people without access to sanitation by 2015
- Industry has a critical role to play in providing innovative and least-impact collection, treatment and distribution of drinking water, as well as sanitation
- Human impact on water supply is evident through the different "footprints" of economic activity and also of poverty
- The provision and maintenance of water supply and sanitation can save communities money, while at the same time protecting health, improving quality of life and "freeing up time" desperately needed for other activities. But water and sanitation provision do require cost recovery — appropriate infrastructure requires high levels of investment and ongoing operations and maintenance must be adequately funded to ensure service and preserve the value of assets. The sustainability of this basic service to address poverty means it must be a user pays or government-funded service.

V. Developing strategies for sustainable water resources management

16. Businesses, domestic consumers and farmers are the primary users of freshwater. Adequate water must be left in the natural environment to protect ecosystems and biodiversity. Agriculture remains the largest water consumer, and in many developing countries, irrigation accounts for 90 per cent of overall water demand. Although efficiency of freshwater consumption by business is improving, the effluent of some operations may impact freshwater availability. The business sector, therefore, has opportunities and responsibilities to make a major contribution to freshwater availability in a number of ways:

- Actively protect water resources
- Reduce the amount of water it uses per unit of production

- Reduce water effluents from its operations
- Reduce water losses (leaks) in pipe conveyance systems
- Promote the efficient and responsible use of its products with the goal of reducing negative impacts of its products on water quality and quantity.

17. The business sector clearly has a growing role to play in the supply and management of water resources. Many member companies of the International Chamber of Commerce (www.iccwbo.org) are adopting innovative approaches to protect water resources, reduce water consumption, reduce water losses, recycle and reuse water, and minimize effluents in water discharged into the environment. Furthermore, many industries are increasingly mitigating the impact of their products during use — the fertilizer industry is seeking to minimize the impacts of plant nutrients on waterways and detergents manufacturers are adapting formulations and developing new products, recognizing differing standards for waste water treatment and environmental sensitivities of water catchments.

18. Nestlé Waters, the water business of Nestlé, applies robust water resource protection measures that extend to the whole catchment area — over 10,000 hectares in the case of the Vittel and Contrex springs in France — where an observation network continuously monitors surface waters and controls activities in the catchment area, with the ultimate objective of avoiding any adverse impacts to the water resource and to protect the ecosystem.

19. RWE Thames Water actively manages water resources across a large part of the Thames catchment. In the United Kingdom, the company provides water and sewage services to approximately 13 million people in the Thames Valley. This is a highly shared catchment, with more than 75 per cent of the public water supply derived directly from the River Thames and its tributaries, and the remaining 25 per cent from groundwater. On average, over 55 per cent of annual effective rainfall in the catchment area is abstracted for human use. The annual per capita availability of water is just 265 cubic metres while the United Nations definition of water scarcity is anything less than 1,000. This has led RWE Thames Water to develop novel management techniques such as recharging aquifers with treated water during periods of high availability which can then be recovered during periods of drought.

20. The plant science industry, represented by CropLife International, is actively seeking to research, develop and refine agricultural technologies that address water management issues. For example, new seed varieties are being developed, including with modern plant biotechnology, which are drought resistant or require less water through stress tolerance, representing a significant potential for critical changes in agricultural production in dry regions. In addition, crop protection products that keep crops healthy are important tools to render crop production more efficient, including in terms of water usage.

21. A developing country example is demonstrated by Eskom — the energy utility in South Africa. Since the 1970s the limitations of the water resources of South Africa have motivated Eskom's engineers to find ways to conserve water in the predominantly coal-based power generation utility. The most effective of the solutions devised is dry cooling, which uses 15 times less water than conventional wet-cooled stations. This technology was introduced by Eskom, resulting in two of the largest dry-cooled power stations in the world, which save over 200 million

litres of water per day that would normally be lost through evaporation (www.eskom.co.za).

VI. Sustainable consumption strategies

22. The efficiency of business and industry's consumption of water generally has been improving. However, there is still scope for major impacts on water availability. Many corporations are designing new plants that maximize use of recycled water and minimize discharges to very low levels. A previous winner of the Stockholm Water Award, General Motors de Mexico (www.gm.com.mx) actually takes in saline water from the aquifer and cleans it up to drinking water standards before use. Any water discharged is cleaner than that from the local aquifer. This cycle of innovation works best when business is dynamic and constantly turning over and modernizing its capital stock.

23. Business and industry has a self-interest in conserving water, for sustainability and economic reasons and to prevent water scarcity which would act as an impediment to its operations. It also has a broader interest in fresh water supply and basic sanitation services wherever it operates, going well beyond guaranteeing continuous supply and limiting water pollution from its operations, and recognizing that a clean environment and fresh water are key to sustainable development and poverty alleviation. Business is also involved in numerous stewardship initiatives beyond its own activities, to create awareness of sustainable use of water in local communities, through education, knowledge-sharing and capacity-building.

24. Another important strategy for conserving water resources is demand management. Careful management and optimization of water use is a significant contributor to water resources management under a limited supply scenario. The availability of water may increasingly become a determinant in business decisions regarding future investments, and business has recognized that it must cooperate with all other water users within a river basin or catchment area. The business community widely accepts the concept of "integrated water resource management".

VII. Equitable access and affordable supply of water for the poor

25. Communities without adequate access to water networks are seeking to strike a balance for their own water consumption, reconciling a vital need for affordable water with the household budget. Financial investment is needed to expand the infrastructure required to extend access to water and sanitation. However, the financial resources are often out of the reach of local governments, particularly in many developing countries. The challenge lies not only in the level of investment required, but also in the sound management of the utilities, including coverage of both capital and operational costs, through appropriate tariffs and/or stable fiscal revenues. Another challenge is to ensure equitable access to these services, based on the needs and interests of all members of a given population, who must be represented in the decision-making process.

26. Nevertheless, examples of innovative solutions do exist. These include the policies of the Government of South Africa. In 1994 an estimated 14 million people

in rural areas of South Africa had inadequate access to safe water and some 21 million people did not have access to a basic level of sanitation. Acknowledging that access to water and sanitation is crucial for the eradication of poverty and underdevelopment, the Government faced up to the challenge by implementing the Community Water Supply and Sanitation programme and the Free Basic Water policy. The latter stipulates that households are entitled to up to 6,000 litres of clean water every month at no cost. The free basic water policy is a collaborative effort by all spheres of government to expedite the delivery of a basic service to all. Since the inception of the programme in 2000, 49 per cent of the poor have been served (www.dwaf.gov.za).

27. There are many current examples of the inadequacy of managing water and sanitation services, which emphasizes the need to develop innovative solutions. These solutions include new institutional models, cost-effective technologies including durable pipe technologies, and appropriate tariff structures within a social context that recognizes the needs and abilities of all stakeholders.

28. While the universal provision of safe piped water supplies is the ultimate objective for drinking water, hundreds of millions of people are years or decades away from having reliable access to safe water supplies. Point-of-use water treatment and safe storage taken as an interim step is one of the most achievable and cost-effective public health interventions available. One point-of-use system designed by the United States Centers for Disease Control and Prevention has been successfully used in a number of countries since 1990. The United States Centers for Disease Control and Prevention Safe Water System consists of three components: disinfection using a dilute solution of chlorine bleach (sodium hypochlorite); safe water storage, using a 20-litre plastic container with a spigot and narrow mouth to prevent hands from touching the water (residual bleach also continues to work as an antimicrobial agent); and community education.

29. The monthly cost of the bleach is only US$ 0.15 to $0.30 per household, making this an option within reach of all communities. Water supply programmes and policies should support and facilitate the immediate adoption of these practices, wherever appropriate, to reduce mortality and suffering, and begin to create the enabling environment for investment and economic development.

VIII. Support for community development

30. Future users need to be closely involved in the decision-making process related to the choice of level of service, technology to be used, and payment options. They should also be closely involved through community participation in the construction of the infrastructure and its management. Promoting an environment of cooperation and effective relations between the service operator, the communities involved, and local governments, creates a sense of ownership within the target community. This fosters conditions of security during the execution of work and subsequent maintenance stages. It also creates adequate conditions for services payment and permits the integration of underprivileged households into the regular system. This activity is usually conducted with the participation of non-governmental organizations or community associations, which act to ensure that lessons learned from a project can be replicated and made part of governmental policies.

IX. Institutional framework

31. Governments should be encouraged to formulate national and subnational strategies for the water sector. Strategies should meet requirements for integrated water resources management and include adaptation and modernization of institutional, legislative and regulatory frameworks, improvement of knowledge of resources and uses, and training in service management and equipment maintenance. Well-designed and appropriate tariff structures are essential to provide an adequate basis and environment for investment. The elements of a comprehensive water strategy apply to all parties. They include:

- Conservation and wise use of the resource base
- Water catchment and sub-basin management to allocate scarce resources most effectively
- Management of underground water and aquifer systems
- Phasing out of inappropriate subsidies which encourage unwise use of scarce water resources
- Strong national and corporate governance as a necessary framework for business investment.

32. The private sector, when involved in the management of public utilities, has shown its capacity to provide efficient water services. However, private sector involvement in the public sector may require institutional reforms that allow stakeholders to work together for more effective management of water systems. Financial practices must be realigned to support the sustainable use of water resources.

X. Cost-effective technologies

33. The service provided through traditional technologies often turns out to be too expensive for low-income communities. Choice of technology needs to take into account equity, sustainability, gender equality, and the safeguarding of basic rights and the ecosystem, within a context of water use efficiency. Initial cost alone must not remain the only driving factor in technology choice. Innovative design of water and sanitation networks can allow up to 50 per cent savings in the construction costs, which in turn can be applied to connection fees.

34. For example, the "condominium approach" has been used for some projects in order to reduce the cost of access to service. Under this approach, households in a neighbourhood organize and agree to work together, providing their labour for excavation and filling work, as well as maintenance of the system once it is complete. To keep costs down, "condominium" systems might use smaller pipe diameters, and pipes are buried in shallow trenches run through household lots or under sidewalks. The cost of condominium water connections has been shown to be about half that of conventional systems.

35. Satisfying the growing demand for irrigation water in the agriculture sector presents a major challenge in countries like India. In some cases, treated effluent can be supplied for irrigation purposes and more research should go into this aspect. For example, Chennai in the south of India, has been facing a water crisis for several

years. Since 1992 Chennai Petroleum Corporation Limited has met its water demand by treating domestic sewage from the city municipality, using reverse osmosis, and then using the treated water in its plant operations.

XI. Appropriate tariffs

36. Charges for water and related services must, in aggregate, reflect the true value of water resources and the infrastructure needed to extract, clean, deliver and take away water after use as well as consider both the current and future cost of service provision. Water should not be wasted, and the waste and/or pollution of water must bear an economic cost. Based on the premise that water is a free or subsidized good, water tariffs have been kept at an artificially low level in many countries. Consequently, many water utilities have been faced with insufficient financial resources to make the necessary investment in new areas of emerging urban growth, or even to maintain existing infrastructure. This has resulted in a degradation of the service.

37. Ultimately, local consumers must pay for water services. They can pay through taxes but then there is no guarantee that these government revenues will not be diverted to other "higher priority" public service provisions. Alternatively, they can pay through a rate structure that is designed to capture the full cost of the operation, including recovery of capital investment. A rate structure can be designed to provide "below cost" rates to the poor for water for basic needs. These subsidized rates are then offset by "above cost" rates to affluent and commercial users, who use larger quantities of water. An alternative would be for the local government to pay water bills for the very poor with other users paying the full cost of the service. In addition, microcredit programmes could be integrated, offering small loans to households so they can pay for new or more efficient plumbing fixtures. Appropriate tariffs are needed whether the service is provided by the public, the private sector or by creative partnerships of the two.

XII. Public-private partnerships

38. Partnerships between public authorities (defining the conditions and level of the service), private companies (responsible for providing the services complying with contract norms and country regulations), and other stakeholders (representing consumers, communities, employees, etc.) can make a major contribution towards sustainable management of water systems. Collectively, industry has the technology and management skills required to implement agreed water strategies, but all sectors must cooperate if society is to minimize adverse effects associated with emerging freshwater shortages.

39. There is no inherent reason why the public sector cannot deliver services as effectively as the private sector. However, for a wide range of reasons, the performance of many public sector water utilities has been inadequate. Systems have been allowed to deteriorate because funds were not available for proper maintenance. Billing and collection rates have been poor. Worker training has been neglected. In some cases the number of employees far exceeded benchmark norms for service. As a result some have called for new creative public-private partnerships in the provision of water services.

XIII. Investment for water services, infrastructure and management

40. Whether water services are provided by the private sector, the public sector or some creative partnership arrangement, it is clear that significant new capital investment will be required. Countries should mobilize national and local resources and provide incentives to improve water resource protection and water infrastructure construction. Transparent ways and means to facilitate a gradual transition towards maximal cost recovery should be explored. Providing services at affordable prices should also consider the abilities of the poor to purchase these services for their households: subsidies for specific groups, particularly poor people, may have to be considered in some countries.

41. Governments should facilitate access to credit and encourage microcredit development. Public and private investors should be provided with appropriate risk guarantee schemes for the financing of investments. Additionally, external resources should be mobilized: bilateral and multilateral donors should assist countries in formulating and implementing integrated water resources management strategies and target special financial programmes to build water infrastructure in low income areas.

42. Financing the building of infrastructure alone, however, will not achieve the United Nations Millennium Development Goals. Even where the infrastructure is in place, there is no guarantee that the water is safe. New approaches, innovation, and new sources of finance will be needed.

43. The role of what is sometimes referred to as the "informal" water market — those who sell water from portable tanks and bottled water — is often ignored. Also, there are new, low cost technologies for household and point-of-use water purification. A significant role has been identified for small, medium and large companies (often in partnership) to bridge the gap with the consumer (even in rural villages and urban slums) as the medium for short-term distribution and financing.

XIV. Conclusions

44. **The priority given to water, sanitation and human settlements in the Commission on Sustainable Development calendar clearly recognizes that action on these Millennium Development Goals is a precondition for poverty reduction and sustainable development.**

45. **Across the business sector, companies operating internationally, regionally and at the local level are helping communities to find ways to meet these vital goals. Ultimately, the future of every business depends on society's ability to balance growing human demand for land, water and sanitation with ecosystem protection in a way that supports equitable social and economic development.**

46. **The engagement of all sectors — government, civil society and business — is essential to develop options that address prevailing economic, social and ecosystem conditions and available governance, infrastructure, financial, technical and operational resources in different communities around the world.**

47. **Business brings many different skills and resources to the table. It also believes that to help put these to best use the Commission on Sustainable Development should give particular attention to the following areas.**

Leadership and governance

48. **Global targets for water, sanitation and human settlements must be broken down into country targets so that national governments and their partners can engage and contribute effectively to meeting the overall goal. Improved data collection is needed in many countries to provide more consistent measurement and reporting of progress.**

49. **The importance of sanitation in reaching the Millennium Development Goals is under-recognized and consequently given low priority by too many Governments. Initiatives are needed to raise awareness and overcome social and cultural barriers that impair adequate progress on sanitation in some countries.**

50. **Integrated Water Resource Management mechanisms have a central part to play in building strong and effective governance for water and sanitation and in fostering sustainable human settlements. The Commission on Sustainable Development should advocate implementation of Integrated Water Resource Management by member States and promote the establishment of harmonized data capture and management systems. For their part businesses can contribute to Integrated Water Resource Management by analysing how their own activities impact on water throughout the life cycle of their products and processes. They should share their understanding of these impacts and how they can best be managed with local decision makers.**

51. **Land tenure issues associated with rapid urban development can have serious implications for the provision of water and sanitation services to the poor and marginalized. The Commission on Sustainable Development should promote better understanding and appreciation of the need to tackle these issues as a means to enabling provision of improved water and sanitation services to those who most need it.**

Unlocking finance

52. **The biggest challenge to achieving these Millennium Development Goals lies in attracting the levels of finance needed for public and private sector investment in water and sanitation. In urban and peri-urban areas, owing to scale and complexity, service provision generally is administered through municipal or equivalent local authorities. In these environments, investment needs can be met only when effective cost recovery systems are adopted, based on the use of tariffs and taxes that are appropriate for the local social, economic and environmental context.**

53. **The Commission on Sustainable Development should seek ways to promote better understanding, development and adoption of appropriate models for the use of tariffs and taxes as the foundation of sustainable economic management — an essential pillar of sustainable water resource management. This should include the use of public participation mechanisms that enable local communities to articulate how they value water across different options for use.**

54. **Donor organizations should give clear signals that official development assistance will be targeted towards building local capacity for sustainable local economic management as the basis for creating the conditions required to draw significantly higher investment flows into water and sanitation improvement. Through their funding policies donors can underscore the message that access to financial resources goes hand in hand with good governance.**

55. **Where local authorities are willing and able to implement sustainable economic management, the business sector can explore with them alternative financing, investment and service delivery options tailored to local conditions and capacity to meet capital and operational costs.**

Infrastructure and technology

56. **Companies across different business sectors are recognizing that their technologies and business models may offer novel routes to bridging infrastructure gaps and to meeting water and sanitation needs, particularly in poorly served developing countries. Through business-to-business networks and in partnership with public, local and civil society organizations, business resources can be leveraged to:**

- **Transfer knowledge, skills and good practice**
- **Share technologies and cooperate to find ways to accelerate dissemination**
- **Help build local capacity to improve community water and sanitation facilities**
- **Support sustainable growth of small and medium-size enterprises in the domestic economy.**

Effective partnership building

57. **Business shares concern about the scale of the challenge of meeting the Millennium Development Goals for water, sanitation and human settlements. It recognizes that to achieve the necessary rate of progress requires engagement of all sectors of business that can bring different resources and skills to generate new options for communities living under varying social economic and environmental conditions.**

58. **The water and sanitation services sector brings particular technology and management skills that have evolved and adapted to address a diversity of urban and peri-urban conditions over the decades. But today many more companies, from information technology and telecommunications to hygiene and health-care sectors, are developing new partnerships and contributing to building infrastructure that empowers local communities to improve their own lives.**

59. **It is therefore vital that the Commission on Sustainable Development and all major groups taking part recognize the enormous and very diverse contribution that business will make to the development of new and sustainable models for meeting the world's needs for water, sanitation and human settlement. They should actively seek the widest possible engagement from the business sector.**